

Lake Mead

Environmental Education

National Recreation Area
National Park Service



Grade 5 - Field Program

"Amazing Adaptations"

Theme	Desert survival requires specialized adaptations for all animals.
Objectives	Students will identify at least two desert weather conditions. Students will measure, record, and compare air and ground temperatures and wind speed. Students will compare at least two different animal adaptations.
Vocabulary	<u>adaptation</u> - a physical or behavioral feature of an animal or plant that helps it survive in its habitat <u>diurnal</u> - active during the day <u>estivation</u> - the state of dormancy induced by heat and dryness of the summer <u>ectothermic</u> - having a body temperature that varies with the temperature of the environment (cold-blooded) <u>endothermic</u> - having a body temperature that is independent of the temperature of the environment (warm-blooded) <u>nocturnal</u> - active during the night
Background Information	<p>Though the Mojave Desert has extremely high air temperatures during the summer days, it cools rapidly in the evenings. Winter temperatures can reach below freezing. There is little annual rainfall (about 4-6 inches yearly), high rate of evaporation, extreme air temperatures, and a varying degree of wind.</p> <p>Desert animals have a variety of adaptations that help them survive. They can be conservers (store or concentrate their water), evaders (avoid the hottest part of the day), and/or excavators (construct burrows). Coyotes escape the heat of the day by being primarily nocturnal. Ground squirrels are diurnal and construct burrows underground. They can also keep cool by washing their head with saliva, running with their tails flashed over their backs exposing the white underside thus reflecting the sunlight, and constructing burrows. Large lizards like the chuckwalla and desert iguanas can tolerate higher air temperatures. These lizards hibernate during cold months.</p>
Before the Field Trip Activity	Have your students create a field journal in preparation for their trip to Lake Mead NRA. Journals provide a means of recording observations in the field and can be accessed at a later date for comparison studies. Have students make a list in their journals of weather conditions that make it difficult for people living in a desert environment. On another page have them write the following: wind speed=____; air temperature=____; ground surface temperature=____; and burrow temperature=____. Please be sure the students bring their field journals with them on the day of the field trip.
After the Field Trip Activity	Now that your students understand some of the pressures desert animals face everyday, as a class compare adaptations of at least two other Mojave Desert animals.

Teachers! - check out our web site <http://www.nps.gov/lame/classindex.htm>

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